A Snapshot of Pediatric Cancers

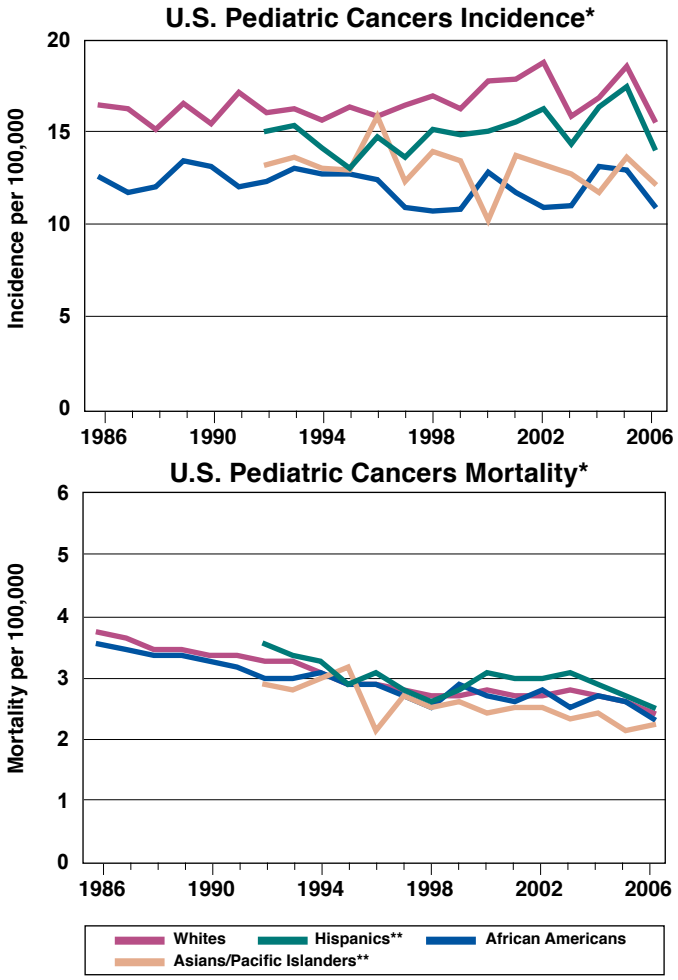
Incidence and Mortality Rate Trends

Cancer is the leading cause of death by disease among U.S. children between infancy and age 15. Approximately 10,730 new cases of pediatric cancer are expected to be diagnosed in children 0–14 years of age in 2009. Among the major types of childhood cancers, leukemias (blood cell cancers) and brain and other central nervous system (CNS) tumors account for more than half of new cases. White children are more likely than children from any other ethnic group to develop cancer.

Although the incidence of invasive cancer in children has increased slightly over the past 30 years, mortality rates have declined by 50 percent for many childhood cancers.[1] The combined 5-year survival rate for all childhood cancers has improved from less than 50 percent before the 1970s to 80 percent today, and the 10-year survival rate is almost 75 percent.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.

[1]Incidence and mortality data reflect cancers in children 0–18 years of age.



** Significant data for American Indians/Alaskan Natives not available.*
*** Incidence and mortality data not available before 1992.*

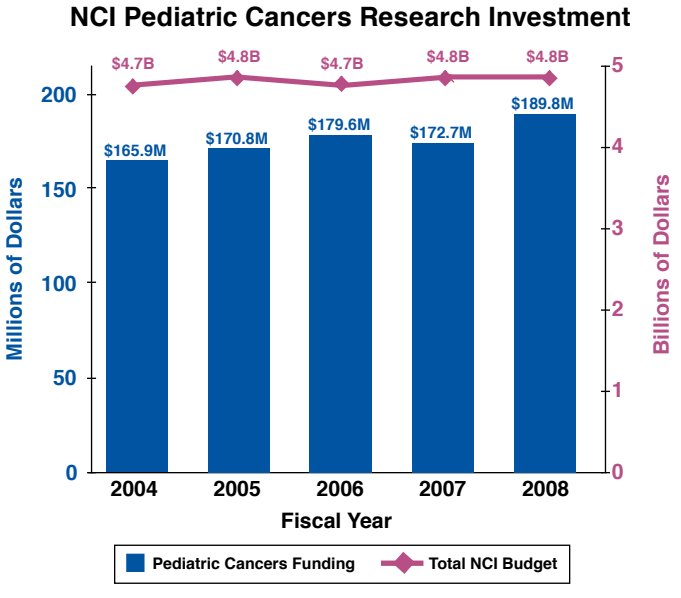
Trends in NCI Funding for Pediatric Cancers[2] Research

The National Cancer Institute's (NCI) investment[3] in pediatric cancers research has increased from $165.9 million in fiscal year 2004 to $189.8 million in fiscal year 2008.

Source: NCI Office of Budget and Finance (http://obf.cancer.gov).

[2]Includes cancers in children 0–18 years of age. Does not include research on pediatric AIDS, infant mortality, science enrichment, or anti-smoking.

[3]The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see http://www.nih.gov/about/.

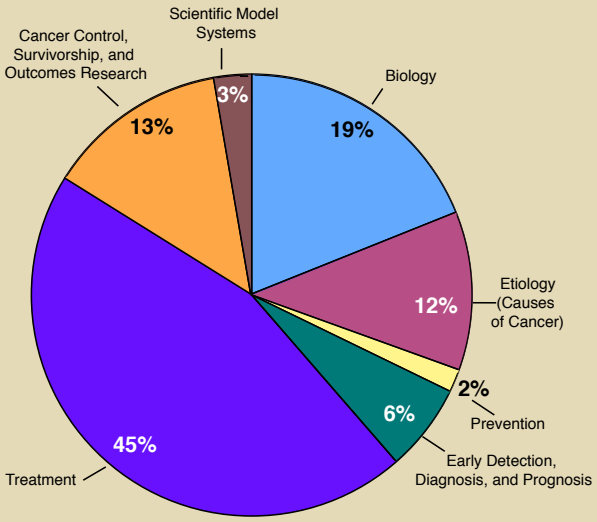


Snapshots can be found online at: http://www.cancer.gov/aboutnci/servingpeople/cancer-snapshots

Examples of NCI Activities Relevant to Pediatric Cancers

- The **Children's Oncology Group (COG)** is an NCI-supported clinical trials cooperative group devoted exclusively to childhood and adolescent cancer research. http://www.childrensoncologygroup.org
- The **Pediatric Brain Tumor Consortium (PBTC)**, a multidisciplinary cooperative research organization, is devoted to the identification of superior treatment strategies for children with primary brain tumors. http://www.pbtc.org
- Researchers are following 11 cohorts of more than 70,000 children enrolled in the **International Childhood Cancer Cohort Consortium** to explore factors that increase the risk of pediatric cancer. http://www.cancer.gov/ncicancerbulletin/NCI_Cancer_Bulletin_031808/page5
- The **Childhood Cancer Survivor Study (CCSS)** addresses the long-term effects of cancer and cancer therapy in more than 14,000 survivors of childhood cancer and approximately 4,000 siblings of survivors. http://www.cancer.gov/cancertopics/coping/ccss
- The **Childhood Cancer Therapeutically Applicable Research to Generate Effective Treatments (TARGET)** initiative is identifying and validating treatment targets to develop new, more effective treatments for pediatric cancers. http://target.cancer.gov/
- The **Pediatric Preclinical Testing Program (PPTP)** identifies new, more effective agents for treating childhood cancers. http://ctep.cancer.gov/investigatorResources/childhood_cancer/#pptp
- The **Pediatric Oncology Branch** in NCI's Center for Cancer Research is dedicated to the study and treatment of childhood cancers. http://home.ccr.cancer.gov/oncology/pediatric/
- The **Childhood Cancers Factsheet** provides information about the most common types of childhood cancer, incidence and survival rates, causes, and research related to childhood cancers. Information specialists can also answer questions about cancer at 1-800-4-CANCER. http://www.cancer.gov/cancertopics/factsheet/Sites-Types/childhood
- The **Childhood Cancers Home Page** directs visitors to up-to-date information on childhood cancer treatment, genetics, causes, and other topics. http://www.cancer.gov/cancertopics/types/childhoodcancers

NCI Pediatric Cancers Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2008

Data sources: NCI's Division of Extramural Activities and the NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio website at http://fundedresearch.cancer.gov

Selected Advances in Pediatric Cancers Research

- Researchers determined that **changes in the *IKAROS* gene might be associated with chemotherapy failure** in some pediatric patients with acute lymphoblastic leukemia. http://www.cancer.gov/ncicancerbulletin/011309/page5
- Variations in a single gene have an impact on the **risk of congestive heart failure after therapy** for childhood cancer. http://www.ncbi.nlm.nih.gov/pubmed/18457324
- A follow up study of 5-year childhood and adolescent cancer survivors indicates that **these patients have increased mortality rates** decades after diagnosis. http://www.ncbi.nlm.nih.gov/pubmed/18812549
- Researchers found that the incidence of **childhood leukemia is associated with hazardous air pollution** in southeast Texas. http://www.ncbi.nlm.nih.gov/pubmed/19057714